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NEM State By State Review

DOCKET NO. 2019-182-E
EXHIBIT NO. __ (ME-1)

Dominion Energy®

October 8, 2020

Benchmarking Overview

- Guidehouse conducted a detailed review of customer-generation rate structures for 20 states and a literature review of trends in NEM successor rates.
- Trends observed:
  - Customers have a right to simultaneously consume the electricity they generate from their system
  - Many states moving from Net Metering to Net Billing
    - Net Metering allows customers to offset kWh of usage with kWh of exported generation
    - Net Billing allows customers to receive a dollar credit for a kWh of exported generation to offset their monthly bill for kWhs of usage
  - Minimum bills or robust fixed charges are being implemented to ensure customer-generators are paying for their electricity use and the use of the generation and grid capacity.
  - Some states are allowing 'grid connection' charges, particularly for larger projects, to ensure the costs related to a utility being on 'stand-by' to serve these customers is compensated for by these customers
  - Most states (about 90% of those we reviewed) allow the customer to own the renewable attributes (Renewable Energy Credits or RECs)

Literature Search:

- The whitepaper "SUSTAINING SOLAR BEYOND NET METERING How Customer Owned Solar Compensation Can Evolve in Support of Decarbonizing California", January 2018, GRIDWORKS provides a detailed explanation and assessment of customer-generation options
- GRIDWORKS wrote this paper after conducting several workshops and incorporating comments from a large and diverse group of stakeholders: Borrego Solar, California Independent System Operator, California Solar Energy Industries Association, Clean Coalition, Office of Ratepayer Advocates, Pacific Gas & Electric, Regulatory Assistance Project, Sacramento Municipal Utility District, San Diego Gas & Electric, Southern California Edison, Sunrun, Tesla, The Utility Reform Network, Vivint Solar, and Vote Solar.
- Below is a summary table of the rate options and an assessment how that option addresses key considerations of capturing locational value, grid cost recovery, customer choice and decarbonization.

TABLE 2

EVALUATING CUSTOMER GENERATION COMPENSATION OPTIONS

	OPTION	LOCATIONAL VALUE	GRID COST RECOVERY	CUSTOMER CHOICE	DECARBONIZE
1	NEM 2.0	●	●	●	●
2	Net Billing	●	●	●	●
3	NB + Grid Services	●	●	●	●
4	BASA	●	●	●	●
5	BASA Grid Services	●	●	●	●

SCALE BETTER ● ● ● ● ● WORSE

Source: GRIDWORKS

https://gridworks.org/wp-content/uploads/2018/01/Gridworks_SustainingSolar_Online.pdf

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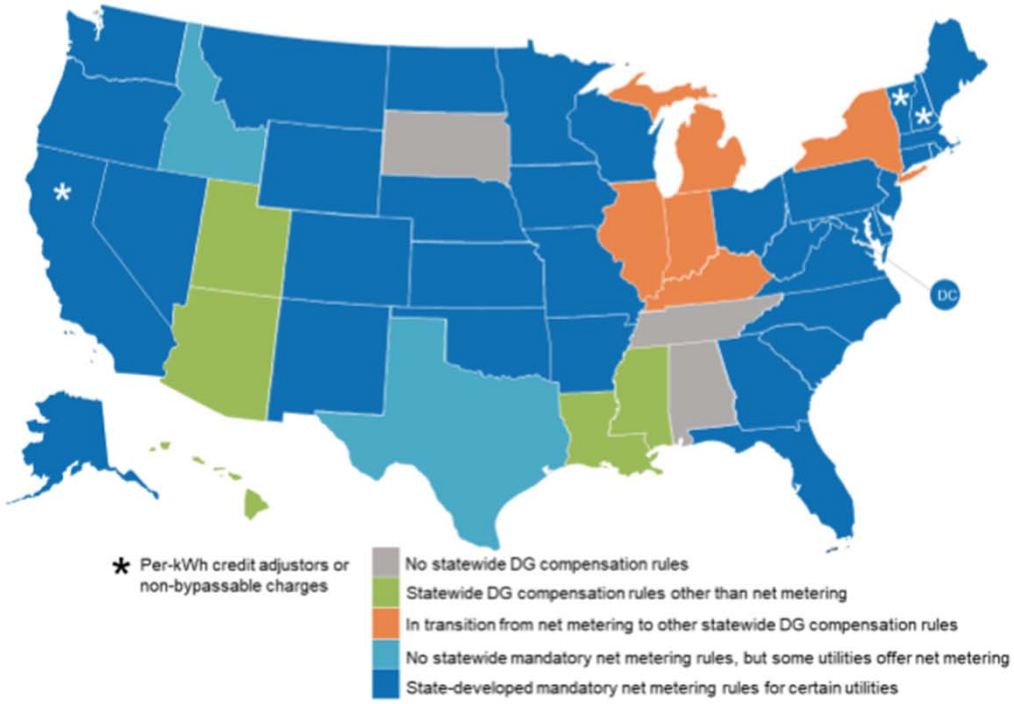
National View of DG Compensation

Figure 4. Current Net Metering and Distributed Generation Compensation Policies



In response to the PSC directive to provide best practices concerning net energy metering policies, particularly those in the Southeast, Guidehouse reviewed policies in the following states:

1. Florida
2. North Carolina
3. Georgia
4. Alabama
5. Mississippi
6. Tennessee
7. North Carolina
8. Virginia
9. Kentucky
10. New York
11. Michigan
12. Indiana
13. Illinois
14. Louisiana
15. Utah
16. Arizona
17. New Hampshire
18. Vermont
19. California
20. Hawaii

Florida

Incentive Type	Net Metering	
Code	Section 366.91(2)(c), F.S., defines net metering as “a metering and billing methodology whereby customer-owned renewable generation is allowed to offset the customer’s electricity consumption on site.”	
Eligible Technologies	Geothermal Electric Solar Thermal Electric Wind (large & small) Biomass Hydroelectric (large & small) Hydrogen	Combined Heat and Power Tidal Wave Ocean Thermal
Utilities	All	
System Size (kW)	90% of the customer’s utility distribution service rating; and Tiered: Tier 1 < 10; Tier 2 10-100; Tier 3 100-2000	
Capacity Limit	None	
Export Compensation	Monthly netting with annual excess at avoided cost	
REC Ownership	Customer	
Meter Aggregation	No	

Recent Activity

On September 3, 2019, several individuals filed a joint petition for the following regulatory improvements for decentralized solar net metering systems in Florida:

- Increase the system size limit for Tier 1 interconnection agreements for net-metered solar systems from 10 kW to 50 kW – Staff recommended against
- Allow customers or their contractors to freely choose the size of their net metering systems if the existing grid connection supports the requested size and other permitting requirements, and technical standards are met. – Staff recommended against
- Increase the minimum compensation for net excess generation to a minimum of 8 cents per kWh. – Staff recommended against

IOU Rate Structures

Florida law requires net metering customers are compensated at the retail rate. Any excess energy generation at the end of the billing month is credited to the customer's energy consumption for the next billing cycle. At the end of each calendar year, utilities credit the customer for any unused net metering credits at an annual rate based on the utility’s COG-1, as available energy tariff.

Georgia

Incentive Type	Net Metering
Code	The Georgia Cogeneration and Distributed Generation Act of 2001 allows but does not require net energy metering to be adopted by utilities. The law requires all utilities to offer bidirectional or single directional metering to customer generators.
Eligible Technologies	Solar Photovoltaics Wind up to 10kW residential; 100kW commercial Fuel Cells
Utilities	All
System Capacity	10kW for Residential 125% of Commercial Demand
Capacity Limit	0.2% of Utility's peak demand during previous year
Export Compensation	Credited to customer's next bill at a predetermined rate filed with the PSC
REC Ownership	Not addressed
Meter Aggregation	Not addressed

Recent Activity

A settlement agreement filed in Georgia Power's latest rate case raised the issue of bi-directional metering utilized by Georgia Power under the Georgia Cogeneration and Distributed Generation Act of 2001.

- A December 2019 order adopted the settlement agreement and approved Georgia Power's rate case.
- The Commission modified part of the settlement agreement to change the "behind the meter." netting period length to be changed from instantaneous to monthly for the first 5,000 rooftop solar customers or until the installed capacity reaches 32 MW.
- Georgia Power filed its proposed revised tariff in May 2020 and features monthly netting, with any net excess generation at the end of each month being credited at Georgia Power's Solar Avoided Energy cost rate.
- An order filed in June 2020 adopted the proposed tariff with non-substantive modifications.

A new proceeding was opened on March 30, 2020 for Georgia Power's Distributed Generation Customer-Connected Solar Program.

- The program is in response to the Commission's July 2019 order adopting stipulation as amended in Georgia Power's 2019 integrated resource planning proceeding (Docket No. 42310).
- Georgia Power filed its application for the Customer-Connected Solar Program in April 2020, which is a buy-all, sell-all program where Georgia Power purchases 100% of a participant's system output at the avoided cost rate as calculated by the Renewable Cost Benefit Framework for a term of 10, 15, 20, 25, or 30 years.
- An order filed on May 26, 2020 approved the Customer-Connected Solar Program but dictates that 25 MW of the 50 MW approved in the IRP stipulation for the program is to be diverted to the existing REDI program.
- An order filed in June 2020 amended the May 2020 order such that the 25 MW Customer-Connected Solar Program will begin on September 1, 2020 and use B-2019 pricing.

IOU Rate Structures

Georgia Power

Georgia Power, the only IOU in Georgia, offers 'credits' for excess generation at the "avoided energy" rate, which is equivalent to the amount that the utility would otherwise pay to buy the power on the open market. These credits can used to offset current month bills and then excess can be 'rolled' to the next month or monetized. The credits are the same regardless of the customer's rate schedule.

Alabama

Incentive Type	Net Billing
Code	None
Eligible Technologies	None
Sectors	None
Utilities	None
System Capacity	100 kW
Capacity Limit	None
Export Compensation	PAE Rate
REC Ownership	None
Meter Aggregation	None

Recent Activity

In April 2018, the Southern Environmental Law Center (on behalf of two individuals and a non-profit organization) filed a formal complaint and petition for a declaratory ruling regarding the legality of Alabama Power's Capacity Reservation Charge included in Rider RGB (Docket No. 32767). Both exporting and non-exporting on-site solar generation facilities are currently required to pay the Capacity Reservation Charge equal to $5/kW of installed DG Capacity.

In July 2018, the petitioners filed an amended complaint (Docket No. U-4226) incorporating their challenge to Alabama Power's recently proposed changes to Rider RGB to increase to $5.42/kW of installed DG Capacity.

On September 1, 2020, the Alabama Public Service Commission voted unanimously to allow Alabama Power to increase the monthly fee it charges to customers who have solar or other alternative power sources. On recommendation of the PSC staff, President Twinkle Andress Cavanaugh joined commissioners Jeremy Oden and Chip Beeker in approving without discussion the increase from $5.00 to $5.41 per kilowatt.

IOU Rate Structures

Alabama Power

The Monthly Base Charge shall be paid by the Customer to the Company to cover the cost of meter configuration, meter reading, data processing and miscellaneous expenses necessary for the proper accounting of electrical energy sold to the Company by the Customer.

The payment for energy is the per kWh payment by the Company to the Customer for energy purchased by the Company from the Customer.

Eligibility for either the Time of Day Rate Option or Time Advantage Rate Option shall be determined based on the rate under which the Customer currently receives electric service.

TIME OF DAY RATE OPTION

Monthly Base Charge:

Single Phase Service, All Customers	$ 0.77 per customer
Three Phase Service, All Customers	$ 1.40 per customer

Payment for Energy:

BILLING MONTHS JUNE - SEPTEMBER
3.40¢ per kWh during the On-Peak Period (Weekdays 10:00 a.m. – 9:00 p.m. CST)
2.47¢ per kWh during the Off-Peak Period (All Other Hours)

BILLING MONTHS OCTOBER – MAY
2.68¢ per kWh during the On-Peak Period (Weekdays 7:00 a.m. – 9:00 p.m. CST)
2.37¢ per kWh during the Off-Peak Period (All Other Hours)

TIME ADVANTAGE RATE OPTION

Monthly Base Charge:

Single Phase Service, All Customers	$ 0.77 per customer
Three Phase Service, All Customers	$ 1.40 per customer

Payment for Energy:

BILLING MONTHS JUNE through SEPTEMBER
3.50¢ per kWh during the Summer Peak Period (Weekdays 1:00 p.m. – 7:00 p.m. CST)
2.61¢ per kWh during the Summer Economy Period (All Other Hours)

BILLING MONTHS NOVEMBER through MARCH
2.72¢ per kWh during the Winter Peak Period (Weekdays 5:00 a.m. – 9:00 a.m. CST)
2.45¢ per kWh during the Winter Economy Period (All Other Hours)

BILLING MONTHS OCTOBER, APRIL, and MAY
2.53¢ per kWh for all hours

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Mississippi

Incentive Type	Net Metering	
Code		
Eligible Technologies	Geothermal Electric Solar Photovoltaics Wind (all) Biomass	Landfill Gas Tidal Wave Hydroelectric (small) Anaerobic Digestion
Utilities	IOUs and limited on cooperatives	
System Capacity	20kW for Residential 2MW of Commercial Demand	
Capacity Limit	3% of Utility's peak demand during previous year	
Export Compensation	Energy credit based on avoided cost, plus a DG benefits adder of $0.025/kWh for RECs. Energy Credit carried over indefinitely	
REC Ownership	Excess energy RECs Transferred to Utility	
Meter Aggregation	Not addressed	

Recent Activity: None

Tennessee

Incentive Type	Net Billing
Code	None
Eligible Technologies	None
Sectors	NA
Utilities	NA
System Capacity	NA
Capacity Limit	NA
Export Compensation	NA
REC Ownership	NA
Meter Aggregation	NA

Tennessee is generally served by municipalities and cooperatives who generally purchase power from TVA. TVA does not allow net energy metering.

Recent Activity: None

North Carolina

Incentive Type	Net Billing	
Code	None	
Eligible Technologies	Solar Photovoltaics, Wind Biomass Hydroelectric Hydrogen	Landfill Gas Tidal Wave Anaerobic Digestion Fuel Cells using Renewable Fuels
Sectors	All	
Utilities	IOUs	
System Capacity	Residential: 20kW or 100% of estimated demand Non-Residential: 1 MW or 100% of estimated demand	
Capacity Limit	Customer owned- no limit Leased: 1% of utility's previous five-year average coincident retail peak	
Export Compensation	Credited at retail rate	
REC Ownership	Utility owns REC	
Meter Aggregation	Community Solar authorized for Duke Energy companies	

Recent Activity: None

Virginia

Incentive Type	Net Metering	
Code	S.B. 966	
Eligible Technologies	Geothermal Electric Solar Thermal Electric Solar PV Hydroelectric Municipal Solid Waste	Tidal Wave Wind Biomass Small Hydro
Sectors	All	
Utilities	IOUs and cooperatives	
System Capacity	Residential: 20kW Non-Residential: 1,000 kW Agriculture: 500kW (aggregated) Systems must be sized to not exceed annual load	
Capacity Limit	1% of adjusted peak load forecast from previous year	
Export Compensation	Credit at retail rate and roll over to next month. After 12 months, customer option to roll (as long as less than total annual consumption) over indefinitely or receive payment. Schools with extra incentive	
REC Ownership	Customer Owns	
Meter Aggregation	Allowed for contiguous agricultural sites Allowed for school districts up to 10MW	
Other	https://www.dominionenergy.com/home-and-small-business/renewable-energy-programs	

Recent Activity

Most recent activities are legislative with HB 573, HB 1184, HB 1634, and HB 1647.

August 27, 2019: State Corporation Commission opened a proceeding Docket No. PUR-2019-00119 to provide for net metering by electric cooperatives.

Feb 2020 adopted proposed regulations, and cooperative must file revised tariffs by May 1, 2020 (filed in April 2020).

Feb 2020 HB 572 passed prohibiting IOUs from assessing standby charges on residential or agricultural customers. Also requires the Commission to study net metering for when capacity levels are reached.

Fixed Charges/Minimum Bills:
Old Dominion Power requested fixed charge increase of $4 and it was denied keeping their fixed charge to $12.

Appalachian Power has also requested an increase in residential fixed charges by nearly $6 from $7.96 to about $14.

Kentucky

Incentive Type	Net Metering
Code	http://www.psc.ky.gov/Home/Utilities#Electric S.B. 100
Eligible Technologies	Solar PV Wind Biomass Hydroelectric Wind
Sectors	All
Utilities	All Except TVA
System Capacity	45 kW
Capacity Limit	None
Export Compensation	Credited to customer's next bill at retail rate; carries over indefinitely
REC Ownership	Customer Owns
Meter Aggregation	Not Addressed

Recent Activity

- In April 2008, Kentucky enacted legislation that expanded its net metering law by requiring utilities to offer net metering. In 2019, S.B. 100 was passed and requires the state Public Service Commission to set crediting structures for each utility based on dollar value rather than kWh netting. Utilities are entitled to implement rates to cover all costs necessary to serve eligible customers, including but not limited to fixed or demand-based costs. Customers taking service under existing net metering rules (including customers that begin service before the new crediting rules for each utility are developed) will be grandfathered in for 25 years

- On June 29, 2020, as part of a general rate case filing, Kentucky Power Company proposed to close its current net metering program to new customers beginning on January 1, 2021 and create a new net metering program following from the requirements of S.B. 100. The new net metering tariff design includes:
  - Monthly netting
  - Two netting periods per day: from 8 AM to 6 PM and 6 PM to 8 PM.
  - Excess generation credited at the avoided cost rate of 3.659 cents per kWh.
  - Potential move to hourly netting if advanced metering infrastructure deployment is allowed.

Fixed Charges/Minimum Bills:
Duke Energy Kentucky requested increase of $3 from $11 to $14, but approval was just for $1.60 to $12.60.

Kentucky Power requested increase of $3.50 from $14 to $17.50. Pending

New York

Incentive Type	Net Billing	
Code		
Eligible Technologies	Solar PV Wind Biomass CHP	Fuel Cells Hydroelectric Anaerobic Digestion
Sectors	None	
Utilities	IOUs	
System Capacity	Residential 25kW (10kW micro-CHP) Farms 100kW Non-Residential 2MW (1.5 fuel cells)	
Capacity Limit	None (previously set at 6% of utility's 2005 demand)	
Export Compensation	PAE Rate	
REC Ownership	Customer has option to own if they retire the REC	
Meter Aggregation	Allowed for non-residential and farm-based customers with solar, wind, farm-based biogas, and micro-hydroelectric systems Community net metering is allowed	

Fixed Charges/Minimum Bills:
NYSEG requested increase from $15.11 to $17. Pending

Recent Activity

- March 2017: the New York Public Service Commission (PSC) issued a net metering transition order (Docket No. 1701276 (Value Stack)) addressing Phase I of the Value of Distributed Energy Resources (VDER).
- May 2017:PSC created three working: (1) the value stack, (2) rate design (Docket No. 1701277 (Rate Design)), and (3) low- and moderate-income issues.
- April 2018: the utilities published a Rate Design Handbook to define and explain the uniform approach they developed for parties to submit rate design proposals.
- June 2018: the PSC announced the following rate designs would be reviewed: a TOU rate proposal submitted by the clean energy parties, a TOU rate proposal from PSC Staff, a demand rate proposal from the joint utilities, and a combined demand and TOU rate proposal from the joint utilities.
- July 2018, the PSC published a white paper on VDER compensation (NYSERDA VDER Resources) for avoided distribution costs that proposed replacing the de-averaged demand reduction value with system-wide marginal cost estimates used for energy efficiency benefit-cost calculations; updating tariff every two years, and recommended two options for customers: (1) provide a $/kWh rate for the 460 peak summer hours used for the tariff's Capacity Value Option 2 or (2) establish a call signal to provide a $/kW-year value over 10 peak load hours
- April 2019: the PSC issued an order making several changes to value stack compensation consistent with the compensation and capacity value white papers written by PSC Staff.
- April and May 2019: the rate design working group reviewed the rate design options submitted by the various parties and an evaluation of the bill savings and avoided cost associated with each option to examine the issue of cost shifting, to include a possible "Customer Benefit Contribution" (CBC) that would be applied to DG customers to recoup contributions to state programs otherwise avoided by DG customers. Also discussed were options for the next rate design step including current rates with the CBC, moving to volumetric TOU rates, and moving to value stack rates along with a standby rate. The joint utilities and clean energy parties filed comments.
- December 2019: , the Staff filed a white paper on rate design for a mass market net metering successor tariff. Due to a current lack of complete AMI deployment and customer interval data availability, the Staff recommended the implementation of a net metering successor bridge tariff until more sophisticated rate designs can be implemented. The proposed bridge tariff would use the current net metering compensation methodology with existing delivery rates and a monthly Customer Benefit Contribution charge. Participating customers would have the option to use existing TOU rates or new standby rates as well.
- February 2020: Parties commented on white paper.
  - The joint utility parties suggested expanding the CBC to include utility fixed costs as well as state program costs and proposed that volumetric rather than monetary crediting be used. Specifically, Proposal for a Customer Benefit Contribution (CBC) charge to collect both public benefit program costs (such as energy efficiency and low-income customer discounts) and costs incurred by utilities to serve customers and the public (such as public safety, storm response, municipal interference relocations, and distribution system maintenance and investment)
  - The City of New York proposed exempting low-income customers from the CBC and not imposing the CBC until one year after its final form is decided.
  - The New York Power Authority proposed additional compensation options for certain DER customers.
  - Distributed Sun, a solar developer focused on commercial projects, recommended eliminating the CBC for commercial customers.
- June 2020: the clean energy parties filed additional details on their recommendations on how utilities should calculate avoided transmission and distribution costs.

Michigan

Incentive Type	Net Metering	
Code	www.Michigan.gov/netmetering	
Eligible Technologies	Solar PV Wind Biomass Hydroelectric Municipal Solid Waste	Landfill gas Tidal Wave Hydroelectric Anaerobic Digestion
Sectors	All	
Utilities	IOUs and rural electric distribution cooperatives that have not opted for member regulation.	
System Capacity	150kW	
Capacity Limit	True net metering: .5% of utility's peak load during previous year Modified net metering: .25 of utility's peak load during previous year Total .75% of utility's peak load during previous year	
Export Compensation	True net metering: <20kW – Credit = Retail rate - Indefinite carry over Modified net metering: >20kW – Credit = power supply component of retail rate. Indefinite carry over Time of use netting for customers on TOU Both Consumers and Indiana Michigan have open dockets to modify export credit (Consumers decreases credit to retail less transmission	
REC Ownership	Customer Owns	
Meter Aggregation	Not addressed	
Other Charges	>150kW must pay standby charges	

Recent Activity

- October 17, 2019: the Michigan Public Service Commission (PSC) opened Docket No. U20645 begin the MI Power Grid initiative, a multi stakeholder initiative designed to help integrate new clean energy technologies and optimize grid investments and will consider:
  - Outreach and education as well as changes to utility regulation.
  - New rate designs for distributed generation
  - Interconnection standards
- February 27, 2020: Consumers Energy (Docket No. U20697) proposed a new DG "inflowoutflow" tariff to replace its net metering program for new customers. "Outflows" to be compensated at the customer's power supply rate (their retail rate excluding transmission costs).
- November 8, 2018, the Michigan Public Service Commission opened Docket No. U20344 to investigate interconnection rules, legally enforceable obligations under PURPA, DG (including energy storage), and legacy net metering rules.
- April 3, 2020: Indiana Michigan Power Company filed an application (Docket No. U20756) to temporarily modify its DG rider to apply outflow credits to the entire monthly bill, rather than the approved entire monthly bill minus the customer service charge. The modification is required until Indiana Michigan Power's billing system is updated to reflect the new tariff structure. The Public Service Commission filed an order approving the application on May 19, 2020.

Indiana

Incentive Type	Net Metering to Net Billing
Code	
Eligible Technologies	Solar Thermal Solar PV Wind Biomass Hydroelectric Hydrogen Fuel Cells
Sectors	All
Utilities	IOUs
System Capacity	1MW
Capacity Limit	NEM 1: 1.5% of utility's most recent summer load NEM 2: after 1.5% reached
Export Compensation	NEM 1: Net bill Retail rate. Unlimited carry-over NEM 2: Set through utility proceeding – must equal 1.25 * the average wholesale price paid
REC Ownership	Silent
Meter Aggregation	Not Addressed

Recent Activity

May 8, 2020: Southern Indiana Gas and Electric Company (d/b/a Vectren Energy Delivery) filed petition in Docket No. 45378 for approval of a new tariff rate (Rider EDG) for the procurement of excess distributed generation. This proceeding follows from Indiana's distributed generation statute requiring net metering to be available until the year after aggregate net metering capacity reaches 1.5% of a utility's peak load. Vectren reached this point in 2020 considering active and pending net metering customers; the net metering tariff would remain available until January 1, 2021. The new Rider EDG is a net billing system with net outflow to be compensated at 1.25 times the locational marginal price at Vectren's load node.

In Q2 2020 Duke Energy Indiana's request of increasing fixed charge of $1.53 (17%) was approved increasing fixed charge from $9.01 to $10.53.

Illinois

Incentive Type	Net Metering
Code	www.icc.Illinois.gove/electricity
Eligible Technologies	Solar PV Wind Biomass Hydro Anaerobic digestion Fuel cells
Sectors	All
Utilities	IOU and retail suppliers
System Capacity	2MW
Capacity Limit	5% of utility's peak demand in previous year
Export Compensation	Non-competitive customers – kWh credit at retail rate/annual clearing Competitive customers – kWh credit on next bill at customer's provider's avoided cost of electricity supply
REC Ownership	Customer owns
Meter Aggregation	Electricity providers must allow net metering for meter-aggregated customers within a single building as well as community owned renewable projects. Cap of 2 MW

Recent Activity

April 15, 2020: ICC opened Docket No. 20-0389 to conduct an investigation of the annual process and formula for calculating distributed generation rebates for Ameren Illinois. With the Future Energy Jobs Act, Illinois's DG rebates replace net metering and net metering capped at penetration of DG of 5% of annual peak demand for their utility.

In April 2020, Ameren Illinois reached 3% DG penetration triggering the process for an investigation to set the value of its DG rebate for both residential and non-residential customers (the rebate is $250 per kW). Parties filed arguing that Ameren calculated the penetration rate incorrectly by not including customers served by alternative electric suppliers in its territory. Hearings scheduled for November 17, 2020.

March 2017: Illinois Commerce Commission (ICC) opened Docket NO. 17-0142 to investigate grid modernization (The NextGrid proceeding) and includes:

- consumers, communities, and economic development;
- grid design, digital networks and markets;
- regulation and encouraging innovation; and
- climate change and the environment.

September 2017: working groups were formed on seven topics:

1. new technology deployment and grid integration,
2. electricity markets,
3. customer and community participation,
4. regulatory, environmental, and policy issues,
5. metering, communications, and data,
6. reliability, resiliency, and cyber security, and
7. ratemaking.

September 2018: draft reports were published with Working Groups 1, 6, and 7 discussing DERs

- Working Group 1: DER integration and valuation.
- Working Group 6: Environmental benefits of DERs,
- Working Group 7: DER valuation in ratemaking. Included locational benefits

Louisiana

Incentive Type	Net Metering
Code	
Eligible Technologies	Geothermal Solar PV Wind Biomass Hydroelectric Wind Fuel cells Microturbines
Sectors	All
Utilities	All
System Capacity	Residential: 25kW Commercial: 300kW >300kW evaluated by PSC
Capacity Limit	.5% of retail peak demand
Export Compensation	NEM 1 (before .5% cap) Credit at retail rate, indefinite carry over NEM 2: Credit at avoided cost rate
REC Ownership	Not addressed
Meter Aggregation	Not addressed

Recent Activity

December 2015: LA Public Service Commission (LA PSC) initiated rulemaking proceeding (Docket R-33929) with two phases.
Phase I: To modify Commission's current net metering rule once to address how new solar customers should be compensated once a utility reaches the net metering cap.
Phase II: Examine appropriate changes to solar polices on longer-term basis.

December 2016: LA PSC adopted changes to the net metering rules, which:

- clarifies definition of excess net metered energy (excess generation);
- provides for transferability of interconnection agreements; and
- requires utilities to accepting net metering applications after reaching net metering cap, but to compensate the excess generation at the utility's avoided cost.

Entergy NEM Rates:
Prior to 12/2019:

- Customers grandfathered under the previous net metering structure for the next 15 years.
- Customers pay retail rate for the difference between the electricity (in kWh) purchased from the utility and the electricity (in kWh) supplied to the grid.
- Customer receives the minimum bill if monthly exports are greater than monthly load and the excess kWhs are applied to the following month's bill.

After 12/2019

- Billed under Rider Schedule DG with a crediting mechanism known as “two-channel billing”.
- Customers pay the applicable retail rate for all electricity (in kWh) purchased from the utility and receive the full retail value for all electricity that they produce and use
- Any surplus energy not used by the customer and sent back to the grid will be credited based on current Avoided Cost rate of approximately $0.0249 beginning April 1, 2020.

Utah

Incentive Type	Net Billing
Code	https://www.rockymountainpower.net/env/nmcg/utah.html
Eligible Technologies	Geothermal Electric Solar Thermal Electric Solar Photovoltaics Wind Biomass Hydroelectric Hydrogen Combined Heat & Power Landfill Gas Anaerobic Digestion
Sectors	
Utilities	
System Capacity	Residential: 25 kW Non-residential: 2MW
Capacity Limit	Residential and small non-residential: 170 MW-DC Large non-residential : 70 MW-DC
Export Compensation	Export credits paid at the rates identified in Electric Service Schedule No. 136: • Schedule 1, 2 & 3: 9.2¢/kWh • Schedule 6: 3.4¢/kWh • Schedule 6A: 6.6¢/kWh • Schedule 6B: 3.4¢/kWh • Schedule 8: 3.5¢/kWh • Schedule 10: 5.6¢/kWh • Schedule 15.1: 4.9¢/kWh • Schedule 15.2: 7.8¢/kWh • Schedule 23: 8.2¢/kWh • First come, first serve up to caps. Excess credits lost after end of annualized billing period (March to Feb for most customers)
REC Ownership	Customer Owns
Meter Aggregation	Multiple meters at one location or an adjacent location may be aggregated for billing purposes

Recent Activity

Utah law requires the PSC to determine:
- Whether the costs of a net metering program exceed the benefits, or vice versa; and
- A just and reasonable charge, credit, or ratemaking structure, including new or existing tariffs, in light of the costs and benefits,

August 2014: PSC opened a docket to investigate the costs and benefits of PacifiCorp's net metering program.
November 2016: Rocky Mountain Power filed information requested by the PSC in support of the required analysis.

September 2017: PSC approved Schedule 136, which functions as net billing and a settlement that :
- Capped the generating capacity of and established a grandfathering period for the net metering program customers
- Established a "Transition Program" for customer generators who submit interconnection applications after November 15, 2017 until the date an aggregate capacity limit is reached
- Permitted PacifiCorp to file an application to initiate the Export Credit Proceeding to determine the compensation rate for exported power from customer generation systems,

Arizona

Incentive Type	Net Billing	
Code	None	
Eligible Technologies	Geothermal Electric Solar Thermal Electric Solar Photovoltaics Wind Biomass Hydroelectric	Hydrogen Municipal Solid Waste Combined Heat & Power Landfill Gas Anaerobic Digestion Fuel Cells using Renewable Fuels
Sectors	All	
Utilities	IOUs and Cooperatives	
System Capacity	No limit – systems sized to not exceed 125% of connected load	
Capacity Limit	None	
Export Compensation	Export credit at avoided cost No banking of credits	
REC Ownership	Customer Owns	
Meter Aggregation	NA	

Recent Activity

December 2016:Arizona Corporation Commission (ACC) replaced net metering with net billing where customers may self-consume energy from their systems and energy not consumed directly on-site is exported to the electric grid and credited at a non-retail rate. In Decision No. 75859 that new customer-generators will receive an avoided cost rate for energy exported to the grid, with no banking of credits.

The avoided cost rates are determined in the utility's rate case and is based on the adopted avoided cost methodology:
Initially calculated using the Resource Comparison Proxy methodology, limiting reductions in export rate to less than 10% annually.
Once stakeholders have developed implementation parameters for the 5-year avoided cost methodology, the new methodology will be used, or the utility can keep using the Resource Comparison Proxy methodology in setting export compensation rates in utility rate cases.
The initial compensation rates are currently being decided in each utility's pending rate case.

Also in Decision No. 75859, the ACC determined that rooftop solar customers are partial requirements customers who export power to the grid, and may be separated into their own rate class.

April 1, 2019: Tucson Electric Power filed a general rate case application, including a request to increase the residential fixed charge. Docket E-01933A-19-0028

May 1, 2020:
- Arizona Public Service (APS) filed its proposed export credit rate(effective September 1, 2020) decreasing from 10.45 to 9.405 cents per kWh. Docket No. E-01345A020-0113
- Tucson Electric Power (TEP) filed its proposed export credit rate (effective on October 1, 2020), decreasing from 8.68 to 7.81 cents per kWh. Docket No. E-01933A-20-0112
- UNS Electric filed its proposed export credit rate (effective on October 1, 2020) decreasing from 10.35 to 9.32 cents per kWh. Docket No.E-04204A-20-0111

New Hampshire

Incentive Type	Net Billing	
Code	None	
Eligible Technologies	Geothermal Electric Solar Thermal Electric Solar Photovoltaics Wind Biomass Hydroelectric	Combined Heat & Power Fuel Cells Landfill Gas Tidal, Wave Anaerobic Digestion Hydrogen
Sectors	All	
Utilities	All	
System Capacity	1 MW	
Capacity Limit	100 MW	
Export Compensation	Net billing (kWh credit) with indefinite carry-over Customer can elect to receive payment annually	
REC Ownership	Customer owns	
Meter Aggregation	Virtual net metering allowed	

Recent Activity

S.B. 166 requires competitive electricity suppliers to purchase net generation from net metering customers.

March 2019: amended bill to require electricity suppliers to credit net generation output from net metering customers at the retail rate.

January 2020: amended bill allows electricity suppliers to determine the terms, conditions, and prices that they purchase or credit generation exported to the distribution grid from customer generators. Also amended to increase system size for small facilities to 125kW.

S.B. 98 (2013) allows virtual net metering where a customer-generator can be a "group host" for a group of customers who are not customer-generators as long as all customers are with the same distribution utility. The kWh credits are then shared between the members of the group. Any costs necessary to upgrade a utility's information systems in order to accommodate the billing arrangement associated with virtual net metering must be paid by the group host.

H.B. 1116, (May 2016), direct proceedings to develop new alternative net metering tariffs and directed to consider:

- Costs and benefits of customer-generator facilities
- Avoiding unjust and unreasonable cost shifting, Rate impacts on all customers
- Alternative rate structures
- Facility size
- Recovery of lost utility revenue through automatic rate adjustment mechanisms

Vermont

Incentive Type	Net Metering
Code	http://psb.vermont.gov/electric/net-metering
Eligible Technologies	Solar Thermal Electric, Solar Photovoltaics, Wind (All), Biomass, Hydroelectric, Combined Heat & Power, Landfill Gas, Wind (Small), Hydroelectric (Small), Anaerobic Digestion, Fuel Cells using Renewable Fuels
Sectors	Commercial, Local Government, Nonprofit, Residential, Schools, State Government, Federal Government, Agricultural, Institutional
Utilities	All Utilities
System Capacity	2.2 MW for military systems; 20 kW for micro-CHP
Capacity Limit	None
Export Compensation	Credited to customer's next bill at the blended residential rate; excess credits not used within 12 months of generation granted to utility
REC Ownership	Utility owns RECs unless the customer elects to retain ownership. Customers granting RECs to the utility receive a positive 2 cent/kWh credit adjustor applicable to all system production for 10 years. Customers electing to retain ownership of their RECs receive a negative 3 cent/kWh credit adjustor in perpetuity.
Meter Aggregation	Group net metering allowed

Recent Activity

Credit Rates, RECS: On January 16, 2020, the Vermont Public Utility Commission opened a biennial update proceeding to review the state's net metering program

- By February 3, 2020 utilities are to file into about current NEM systems
- By March 2, 2020, Dept. of Public Service and Agency of Natural Resources may file any proposed updates on REC adjustors, siting adjustors, the statewide blended residential rate and eligibility criteria for Category I,II,III, and IV NEM systems.
- The Commission will issue an order announcing any changes by May 1, 2020

The Vermont Agency of Natural Resources filed comments in early March, deferring to Dept. of Public Service on REC adjustors and statewide blended residential rate.

- The Agency recommended no changes to siting adjustors and eligibility
- Dept of Public Service filed comments:
  - Recommending that REC adjustor for projects transferring RECs to the utility be reduced from it's current rate of positive $0.01/kWh to $0.00/kWh and again to negative $0.01/kWh in the next year.
  - Reducing the REC adjustor for projects retaining RECs from it's current rate of negative $0.03/kWh to negative $0.04/kWh and again to negative $0.05/kWh in the next year.
  - The Department also recommended increasing the statewide blended residential rate to $0.16413/kWh.
  - The proceeding is stayed until August 3, 2020 due to COVID-19.

Net Metering: In April 2019, the Vermont Public Utility Commission (PUC) opened a proceeding to review the state's net metering rules.

- The proposed rules do not make any changes to the rate structure for net metering, but the Commission indicated an interest in stakeholder comments on whether changes should be made.
- The Commission recently examined the use of locational pricing for the state's standard offer program and determined it wasn't appropriate, but the Commission is interested in whether it would be appropriate for net metering.
- The proposed rules clarify and streamline the registration process for net metering systems and make changes to the definition of "preferred site."
- The Commission is requesting comments on
  - whether preferred site status is appropriate for areas of the grid that are constrained.
  - whether there should be a simplified certificate of public good process for installing solar canopies over existing parking lots.

California (IOUs)

Incentive Type	Net Metering
Code	http://www.cpuc.ca.gov/General.aspx?id=3800
Eligible Technologies	Geothermal Electric, Solar Thermal Electric, Solar Photovoltaics, Wind (All), Biomass, Municipal Solid Waste, Fuel Cells using Non-Renewable Fuels, Landfill Gas, Tidal, Wave, Ocean Thermal, Wind (Small), Hydroelectric (Small), Anaerobic Digestion, Fuel Cells using Renewable Fuels
Sectors	Commercial, Industrial, Local Government, Nonprofit, Residential, Schools, State Government, Federal Government, Agricultural, Institutional
Utilities	All utilities except LADWP
System Capacity	100% of customer's annual load 5 MW for systems operating under the bill credit transfer program authorized by Public Utilities Code 2830. System must be owned by, operated by, or on property under the control of, a local government or university.
Capacity Limit	N/A
Export Compensation	Net metering at retail rates NEM 2.0 requires customer to be on TOU rate and excludes non-by-passable charges from retail export credit
REC Ownership	Customer owns RECs. RECs associated with excess exports with annual true transfer to utility.
Meter Aggregation	Virtual net metering allowed for multi-tenant properties. Meter aggregation allowed for local governments but must be on a time-of-use rate.

Guidehouse

Recent Activity

A January 2016 decision from the California Public Utilities Commission (CPUC) established a successor tariff to replace net metering when the utilities reach their aggregate caps.

- Since the successor tariff was adopted, the CPUC has continued to use this docket to explore other issues related to customer generation.
- A ruling issued in March 2019 solicited comments on enhanced consumer protection
- measures for net metering customers and briefs on parties' positions regarding the authority of the CPUC over third-party solar providers.

A decision filed in May 2019 addresses an application for rehearing of the original 2016 order adopting the successor tariff, specifically addressing assessment of non-bypassable charges for customers under the successor tariff.

- The decision rules that non-bypassable charges should be assessed only on the net kWh consumed in each metered interval, and not on the basis of instantaneous netting.

A scoping ruling filed in June 2019 established the remaining issues to be addressed in the proceeding. The highest priority issues were consumer protection measures and outstanding petitions for modification.

- The Commission expects to adopt standardized inputs and assumptions to be used in the calculation of electric bill savings from using solar by the end of 2019.

The Commission's Energy Division Staff developed a proposal for standardized inputs and assumptions for calculating electric utility bill savings from a solar energy system and procuring a third party to develop a publicly available calculator to determine electric utility bill savings from a solar energy system.

- Three utilities provided comments and were mostly supportive, All utilities were not supportive of the suggestion that solar providers should present their own bills savings calculation alongside the standard calculation.

A proposed decision filed on September 20, 2019 denied a petition for modification of a prior decision filed by CALSEIA and the Multifamily Affordable Solar Homes Coalition that sought an exemption from mandatory TOU rates for multifamily affordable housing utilizing virtual net metering.

- A proposed decision filed in June 2020 adopts standardized inputs and assumptions to be used by solar providers in the calculation and presentation of expected electric savings to residential customers.

California (PU)

Incentive Type	Net Metering
Code	None
Eligible Technologies	Solar Photovoltaics
Sectors	Commercial, Industrial, Local Government, Nonprofit, Residential, Schools, State Government
Utilities	Los Angeles Department of Water & Power
System Capacity	1 MW
Capacity Limit	No limit Specified
Export Compensation	Credited to customer's next bill at retail rate.
REC Ownership	Customer owns RECs
Meter Aggregation	Not Allowed

Recent Activity

On October 3, 2019, the Solar Energy Industries Association (SEIA) filed a petition for modification of the decision that adopted consumer protection measures.

- SEIA argues customers should be able to provide an e-signature indicating
- they have received the consumer information packet, rather than needing to provide a "wet" signature.
- A ruling filed in October 2019 seeks comments on the Assigned Commissioner's proposal for additional consumer protection measures for solar providers receiving e-signatures from customers, and the Assigned Commissioner's proposal for a registration process for solar providers.
- The decision filed in February 2020 allows for e-signatures, but also requires the collection of additional information, coordination between IOUs and affected governmental agencies to more effectively address consumer complaints, and
- authorizes the Consumer Protection and Enforcement Division to propose a citation program.

On November 20, 2019, the California Solar & Storage Association filed a petition for modification to resolve ambiguity in the way properties are defined in virtual net metering, specifically seeks clarification related to projects that span more than one tax parcel.

Hawaii

Private Rooftop Solar Programs

Offer four options:

Customer Grid-Supply Plus (CGS Plus) systems must include grid support technology to manage grid reliability and allow the utility to remotely monitor system performance, technical compliance and, if necessary, control for grid stability.

Smart Export customers with a renewable system and battery energy storage system have the option to export energy to the grid from 4 p.m. – 9 a.m. Systems must include grid support technology to manage grid reliability and system performance.

Customer Self-Supply (CSS) is intended only for private rooftop solar installations that are designed to not export any electricity to the grid. Customers are not compensated for any export of energy.

Customer Grid-Supply (CGS) participants receive a PUC-approved credit for electricity sent to the grid and are billed at the retail rate for electricity they use from the grid. The program remains open until the installed capacity has been reached.

Recent Activity

September 2009: Hawaii Public Utilities Commission (PUC) issued a decision that established a feed-in tariff and was approved in October 13, 2010. Program reviewed every three years.

September 2019: PUC opened to investigate the technical, economic, and policy issues associated with distributed energy resources.

August 2019 closed the proceeding opened new proceeding (Docket NO. 2019-0323 that picks up work because to allow for convergence of DER & demand response. Proceeding focuses on:

- What types of new DER programs should be examined and developed?
- What advanced rate designs will be offered to customers?
- How should existing DER programs and tariffs be addressed?
- What improvements can be made to the interconnection process and technical standards to better facilitate the integration of DER into Companies' systems?

Jan 30, 2020: A technical workshop was held to solicited feedback on programmatic and technical issues

April 2020: order refined the scope to focus on three major categories of issues:

- DER programs;
- Advanced rate design; and
- Technical issues.

The order also established a procedural schedule for each of these three tracks.

The order also increased the cap for HECO's CGS+ program on Hawaii Island from 7 MW to 12 MW.

June 4, 2020: work from advanced rate design track that reviewed:

- Challenges faced by low- and moderate-income customers,
- Unbundling of costs, benefits and drawbacks of specific rate design options,
- Establishing advanced rate designs like time of-use rates,
- Implementing pilot programs for advanced rate design options (like subscription rates and real time pricing), and
- Updating electric vehicle rate structures.

END

EXHIBIT NO. __ (ME-1)